

WHAT IS CLAIMED IS:

- 1 1. A liquid ejection head, comprising:
 - 2 a metallic cavity unit, formed with liquid flow passages respectively
 - 3 continued from a common liquid reservoir to nozzle orifices via pressure
 - 4 chambers;
 - 5 an actuator unit, in which a plurality of piezoelectric elements are
 - 6 supported on a fixation plate in a cantilevered manner;
 - 7 a resin casing, formed with a first face onto which the cavity unit is
 - 8 bonded, and an actuator chamber which accommodates the actuator unit
 - 9 therein such that free ends of the piezoelectric elements are abutted onto the
 - 10 cavity unit; and
 - 11 a metallic reinforcement member, integrally molded with the casing
 - 12 such that at least a part thereof is buried in the casing at the vicinity of the first
 - 13 face.
- 1 2. The liquid ejection head as set forth in claim 1, wherein the
- 2 reinforcement member extends in the casing so as to surround the actuator
- 3 chamber.
- 1 3. The liquid ejection head as set forth in claim 1, wherein a whole body
- 2 of the reinforcement member is buried in the casing.
- 1 4. The liquid ejection head as set forth in claim 1, wherein the
- 2 reinforcement member is formed with a hole filled with resin forming the

3 casing.

1 5. The liquid ejection head as set forth in claim 1, wherein a part of the
2 reinforcement member serves as the first face.

1 6. The liquid ejection head as set forth in claim 1, wherein the
2 reinforcement member is formed with an anchor member projecting into the
3 casing.

1 7. The liquid ejection head as set forth in claim 1, wherein the
2 reinforcement member is comprised of a metal selected from the group
3 consisted of stainless steel, nickel, aluminum, alumetized aluminum and
4 nickel-plated aluminum.

1 8. A liquid ejection head, comprising:

2 a metallic cavity unit, formed with liquid flow passages respectively
3 continued from a common liquid reservoir to nozzle orifices via pressure
4 chambers;

5 an actuator unit, in which a plurality of piezoelectric elements are
6 supported on a metallic fixation plate in a cantilevered manner and arranged in
7 a first direction;

8 a resin casing, formed with an actuator chamber which
9 accommodates the actuator unit therein such that free ends of the piezoelectric
10 elements are abutted onto the cavity unit; and

11 a metallic reinforcement member, disposed between the casing and

12 the cavity unit so as to provide a through hole communicated with the actuator
13 chamber, wherein:

14 the through hole comprises a first part having a first dimension in a
15 second direction perpendicular to the first direction which is substantially equal
16 to a thickness of the fixation plate, and a second part having a second
17 dimension in the first direction which is substantially equal to a dimension
18 between outermost end faces of the piezoelectric elements in the first
19 direction; and

20 the actuator unit is bonded to the reinforcement member, while the
21 fixation plate is accommodated in the first part of the through hole and the
22 piezoelectric elements are accommodated in the second part of the through
23 hole.

1 9. The liquid ejection head as set forth in claim 8, wherein the
2 reinforcement member is formed by laminating a first plate member formed
3 with the first part of the through hole and a second plate member formed with
4 the second part of the through hole.

1 10. The liquid ejection head as set forth in claim 8, wherein the
2 reinforcement member is a one-piece member obtained by forging and
3 punching.

1 11. The liquid ejection head as set forth in claim 8, wherein a thickness of
2 the reinforcement member is substantially equal to a longitudinal dimension of
3 the piezoelectric elements.

1 12. The liquid ejection head as set forth in claim 8, wherein the
2 reinforcement member is integrally molded with the casing.

1 13. The liquid ejection head as set forth in claim 12, wherein the
2 reinforcement member is formed with a hole filled with resin forming the
3 casing.

1 14. The liquid ejection head as set forth in claim 12, wherein the
2 reinforcement member is formed with an anchor member projecting into the
3 casing.

1 15. The liquid ejection head as set forth in claim 8, wherein the
2 reinforcement member is comprised of a metal selected from the group
3 consisted of stainless steel, nickel, aluminum, alumetized aluminum and
4 nickel-plated aluminum.